

**GROUP
11**

Wheels And Tires

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PART 11-01 General Wheels and Tires Service

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A page number indicates that the item is for the vehicle(s) listed at the head of the column.
N/A indicates that the item is not applicable to the vehicle(s) listed.

1 COMMON ADJUSTMENTS AND REPAIRS

WHEEL BALANCING

See the instructions provided with the Rotunda Wheel Balancer.

Make certain that the brakes are not dragging before attempting to spin the wheels. Push the brake shoes into the caliper to free the rotor.

2 CLEANING AND INSPECTION

WHEEL INSPECTION

Wheel hub nuts should be inspected and tightened to specification at pre-delivery. Loose wheel hub nuts may cause shimmy and vibration. Elongated stud holes in the wheels may also result from loose hub nuts.

Keep the wheels and hubs clean. Stones wedged between the wheel and

drum and lumps of mud or grease can unbalance a wheel and tire.

Check for damage that would affect the runout of the wheels. Wobble or shimmy caused by a damaged wheel will eventually damage the wheel bearings. Inspect the wheel rims for dents that could permit air to leak from the tires.

FRONT WHEEL BEARING MAINTENANCE

Wheel bearings are adjustable to correct for bearing and spindle shoulder wear. Satisfactory operation and long life of bearings depend on proper adjustment and correct lubrication. If bearings are adjusted too tightly, they will overheat and wear rapidly. An

adjustment that is excessively loose will cause pounding and contribute to uneven tire wear, steering difficulties and inefficient brakes. The bearing adjustment should be checked at regular inspection intervals.

Front hubs and bearings should be cleaned, inspected and lubricated whenever the hubs are removed or at

the mileage/time periods indicated in the maintenance schedule.

New hub grease seals should be installed when the hub is removed. An imperfect seal may permit bearing lubricant to reach the brake linings resulting in faulty brake operation and necessitating premature cleaning or replacement of linings.

TIRE INSPECTION

Incorrect wheel alignment can cause tire wear. Abnormal or excessive tire wear can also be caused by wheel/tire unbalance or incorrect tire pressure. Typical tire wear patterns are shown in Fig. 1.



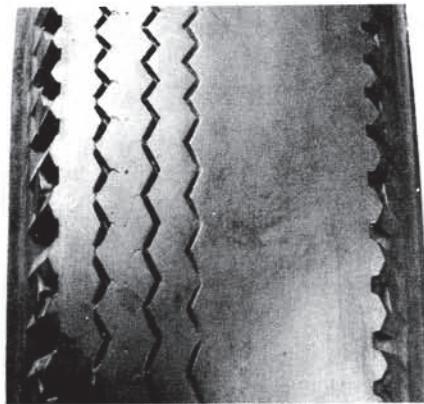
UNDERINFLATION



OVERINFLATION



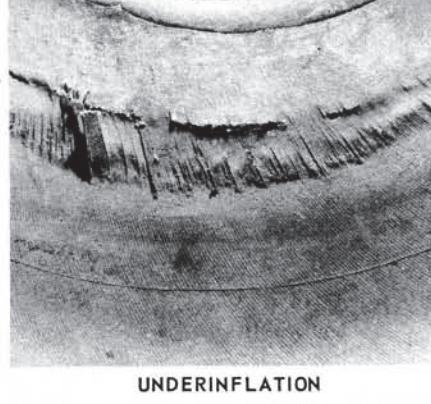
CUPPING—UNDERINFLATION AND/OR MECHANICAL IRREGULARITIES

INCORRECT TOE-IN
OR EXTREME CHAMBERFEATHERING DUE TO MISALIGNMENT
OR SEVERE CORNERING

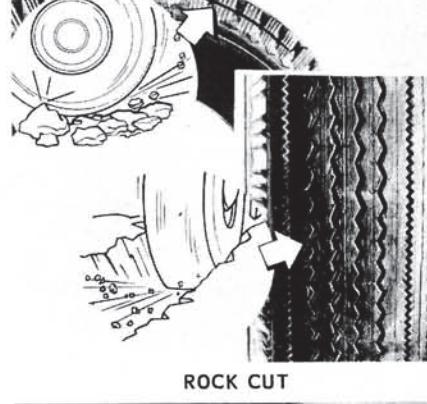
STONE BRUISE



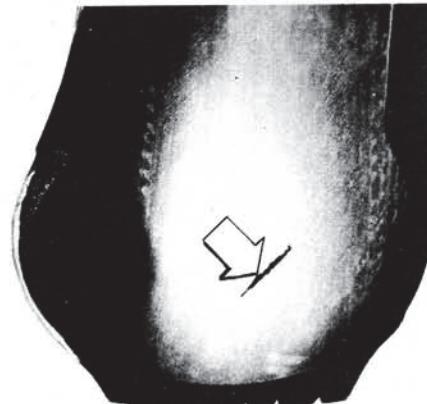
STONE BRUISE



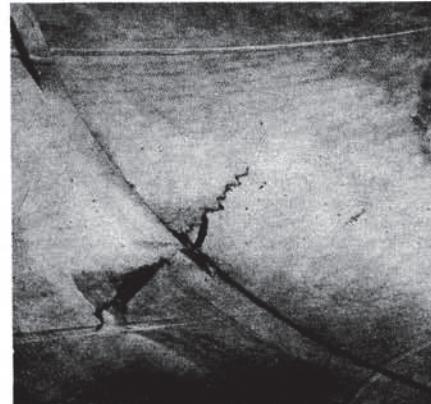
UNDERINFLATION



ROCK CUT



BRUISE



HEAT BRUISE

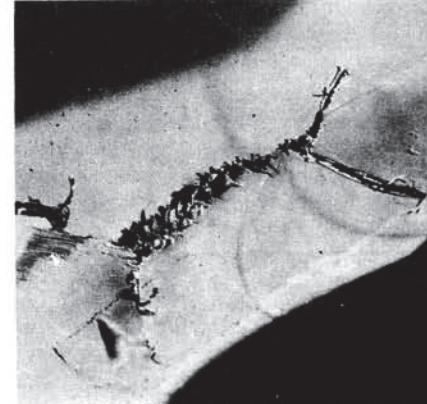
DOUBLE BRUISE—SHARP OBJECT
AND RESULTING FATIGUE F1467-B

FIG. 1—Tire Wear Conditions

PART 11-02 Wheels

COMPONENT INDEX Applies To Models As Indicated	All Models	Ford	Mercury	Meteor	Cougar	Fairlane	Falcon	Maverick	Montego	Mustang	Lincoln- Continental	Thunderbird	Continental- Mark III
FRONT HUB AND DRUM ASSEMBLY Removal and Installation	02-05												
FRONT HUB AND ROTOR ASSEMBLY Removal and Installation			02-05	02-05	02-05	02-05	02-05	N/A	02-05	02-05	02-05	02-05	02-05
FRONT WHEEL ASSEMBLY Description	02-01												
FRONT WHEEL BEARING ADJUSTMENT	02-02												
FRONT WHEEL GREASE SEAL AND BEARING Removal, Installation, Repacking	02-03												
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A page number indicates that the item is for the vehicle(s) listed at the head of the column.
N/A indicates that the item is not applicable to the vehicle(s) listed.

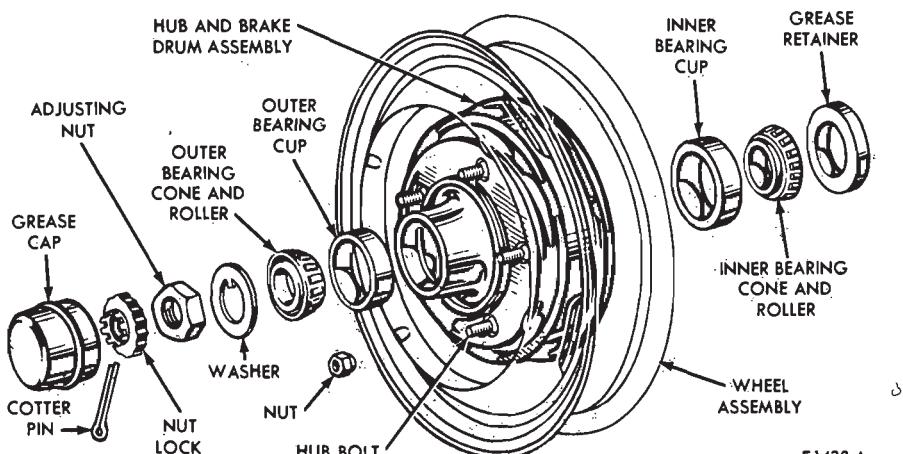
1 DESCRIPTION

FRONT WHEEL ASSEMBLY

Each front wheel and tire is bolted to its respective front hub and brake drum or rotor assembly. Two opposed tapered roller bearings are installed in each hub. A grease retainer is installed at the inner end of the hub to prevent lubricant from leaking into the drum or on the rotor. The entire assembly is retained to its spindle by the adjusting nut, nut lock and cotter pin (Figs. 1 and 2).

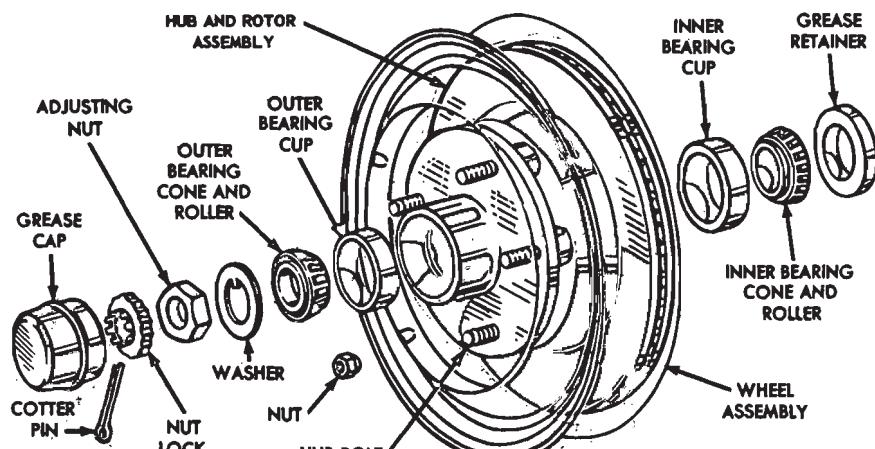
REAR WHEEL ASSEMBLY

The rear wheel hub and brake drum assembly is attached to studs on the rear axle shaft flange by three speed nuts. The wheel and tire mounts on the same rear axle shaft flange studs and is held against the hub and drum by the wheel nuts. The rear wheel bearing is pressed onto the axle shaft just inside the shaft flange, and the entire assembly is retained to the rear axle housing by the bearing retainer plate which is bolted to the housing flange.



F1422-A

FIG. 1—Front Hub, Bearing and Grease Retainer Drum Brakes



F1416-A

FIG. 2—Front Hub and Rotor Bearing and Grease Retainer Disc Brakes—Typical

2 IN-VEHICLE ADJUSTMENTS AND REPAIRS

HOISTING INSTRUCTIONS

Damage to steering linkage components and front suspension struts may occur if care is not exercised when positioning the hoist adapters of 2 post hoists prior to lifting the vehicle.

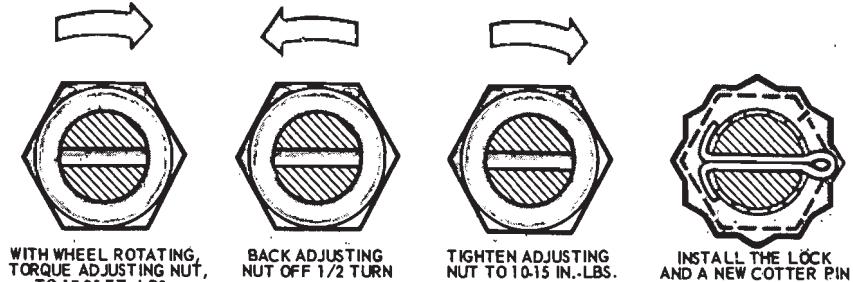
If a 2 post hoist is used to lift the vehicle, place the adapters under the lower arms or the No. 1 crossmember. Do not allow the adapters to contact steering linkage. If the adapters are placed under the crossmember, a piece of wood (2x4x16 inches) should be placed on the hoist channel between the adapters. This will prevent the adapters from damaging the front suspension struts.

FRONT WHEEL BEARING ADJUSTMENT

The front wheel bearings should be adjusted if the wheel is loose on the spindle or if the wheel does not rotate freely. The following procedures will bring the bearing adjustment to specification.

DRUM BRAKES

1. Raise the vehicle until the wheel and tire clear the floor.
2. Pry off the hub cap or wheel cover and remove the grease cap (Fig. 1) from the hub.
3. Wipe the excess grease from the



F1417-A

FIG. 3—Front Wheel Bearing Adjustment

end of the spindle, and remove the cotter pin and nut lock.

4. While rotating the wheel, hub, and drum assembly, torque the adjusting nut to 17-25 ft-lbs to seat the bearings (Fig. 3).

5. Locate the nut lock on the adjusting nut so that the castellations on the lock are aligned with the cotter pin hole in the spindle.

6. Using a 1 1/8-inch box wrench, back off the adjusting nut one half turn. Retighten the adjusting nut to 10-15 in-lbs with a torque wrench or finger tight.

7. Position the lock on the adjusting nut and install a new cotter pin. Bend the ends of the cotter pin around the castellated flange of the nut lock.

8. Check the front wheel rotation.

If the wheel rotates properly, install the grease cap and the hub cap or wheel cover. If the wheel still rotates roughly or noisily, clean, inspect or replace the bearings and cups as required.

DISC BRAKES

1. Raise the vehicle until the wheel and tire clear the floor.
2. Pry off the wheel cover and remove the grease cap (Fig. 2) from the hub.
3. Wipe the excess grease from the end of the spindle, and remove the adjusting nut cotter pin and nut lock.
4. Loosen the bearing adjusting nut three turns. Then, rock the wheel, hub, and rotor assembly in and out several times to push the shoe and

linings away from the rotor.

5. While rotating the wheel, hub, and rotor assembly, torque the adjusting nut to 17-25 ft-lbs to seat the bearings (Fig. 3).

6. Back the adjusting nut off one half turn. Then, retighten the adjusting nut to 10-15 in-lbs with a torque wrench or finger tight.

7. Locate the nut lock on the ad-

justing nut so that the castellations on the lock are aligned with the cotter pin hole in the spindle.

8. Install a new cotter pin, and bend the ends of the cotter pin around the castellated flange of the nut lock.

9. Check the front wheel rotation. If the wheel rotates properly, install

the grease cap and the hub cap or wheel cover. If the wheel still rotates roughly or noisily, clean or replace the bearings and cups as required.

10. Before driving the vehicle, pump the brake pedal several times to obtain normal brake lining to rotor clearance and restore normal brake pedal travel.

3 REMOVAL AND INSTALLATION

HOISTING INSTRUCTIONS

Damage to steering linkage components and front suspension struts may occur if care is not exercised when positioning the hoist adapters of 2 post hoists prior to lifting the vehicle.

If a 2 post hoist is used to lift the vehicle, place the adapters under the lower arms or the No. 1 crossmember. Do not allow the adapters to contact the steering linkage. If the adapters are placed under the crossmember, a piece of wood (2x4x16 inches) should be placed on the hoist channel between the adapters. This will pre-

vent the adapters from damaging the front suspension struts.

WHEELS AND TIRES

WHEEL AND TIRE REMOVAL

1. Pry off the wheel hub cap or wheel cover. Loosen but do not remove the wheel hub nuts.

2. Raise the vehicle until the wheel and tire clear the floor.

3. Remove the wheel hub nuts from the bolts, and pull the wheel and

tire from hub and drum.

WHEEL AND TIRE INSTALLATION

1. Clean all dirt from the hub and drum.

2. Position the wheel and tire on the hub and drum. Install the wheel hub nuts and tighten them alternately to draw the wheel evenly against the hub and drum.

3. Lower the vehicle to the floor, and torque the hub nuts to specification.

4 MAJOR REPAIR OPERATIONS

HOISTING INSTRUCTIONS

Damage to steering linkage components and front suspension struts may occur if care is not exercised when positioning the hoist adapters of 2 post hoists prior to lifting the vehicle.

If a 2 post hoist is used to lift the vehicle, place the adapters under the lower arms or the No. 1 crossmember. Do not allow the adapters to contact the steering linkage. If the adapters are placed under the crossmember, a piece of wood (2x4x16 inches) should be placed on the hoist channel between the adapters. This will prevent the adapters from damaging the front suspension struts.

FRONT WHEEL GREASE SEAL AND BEARING REMOVAL, INSTALLATION AND/OR REPACKING

If bearing adjustment will not

eliminate looseness or rough and noisy operation, the hub and bearings should be cleaned, inspected, and repacked with specified wheel grease. If the bearing cups or the cone and roller assemblies are worn or damaged, they should be replaced.

DRUM BRAKES

1. Raise the vehicle until the wheel and tire clear the floor.

2. Remove the wheel cover or hub cap. Remove the grease cap from the hub. Remove the cotter pin, nut lock, adjusting nut, and flat washer from the spindle. Remove the outer bearing cone and roller assembly (Fig. 1).

3. Pull the wheel, hub, and drum assembly off the wheel spindle.

4. Remove the grease retainer with Tool 1175AB and discard. Remove the inner bearing cone and roller assembly from the hub.

5. Clean the lubricant off the inner

and outer bearing cups with solvent and inspect the cups for scratches, pits, excessive wear, and other damage. If the cups are worn or damaged, remove them with Tool T69L-1102-A (Fig. 4).

6. Thoroughly clean the inner and outer bearing cone and roller assemblies with solvent and dry them thoroughly. Do not spin the bearings with compressed air.

Inspect the cone and roller assemblies for wear or damage, and replace them if necessary. The cone and roller assemblies and the bearing cups should be replaced as a unit if damage to either is encountered.

7. Thoroughly clean the spindle and the inside of the hub with solvent to remove all old lubricant.

Cover the spindle with a clean cloth, and brush all loose dust and dirt from the brake assembly. To prevent getting dirt on the spindle, carefully remove the cloth from the

spindle.

8. If the inner and/or outer bearing cup(s) were removed, install the replacement cup(s) in the hub with the tool shown in Fig. 5. Be sure to seat the cups properly in the hub.

9. Pack the inside of the hub with specified wheel bearing grease. Add lubricant to the hub only until the grease is flush with the inside diameter of both bearing cups (Fig. 6).

10. All old grease should be completely cleaned from the bearings and surrounding surfaces before repacking them with new grease (CIAZ-19590-B). The new lithium base grease is not compatible with sodium base grease which may have been present on the bearing surfaces. Pack the bearing cone and roller assemblies

with wheel bearing grease. A bearing packer is desirable for this operation. If a packer is not available, work as much lubricant as possible between the rollers and cages. Lubricate the cone surfaces with grease.

11. Place the inner bearing cone and roller assembly in the inner cup. Apply a light film of grease to the lip(s) of the grease retainer and install the new grease retainer with the reverse end of the tool shown in Fig. 5. Be sure that the retainer is properly seated.

12. Adjust the brake shoes as outlined in Group 12.

13. Install the wheel, hub, and drum assembly on the wheel spindle. Keep the hub centered on the spindle to prevent damage to the grease retainer or the spindle threads.

14. Install the outer bearing cone and roller assembly and the flat washer on the spindle, then install the adjusting nut (Fig. 1).

15. Adjust the wheel bearings as outlined in Section 2, and install a new cotter pin. Bend the ends of the cotter pin around the castellations of the nut lock to prevent interference with the radio static collector in the grease cap. Install the grease cap.

16. Install the hub cap or wheel cover.

DISC BRAKES

1. Raise the vehicle until the wheel

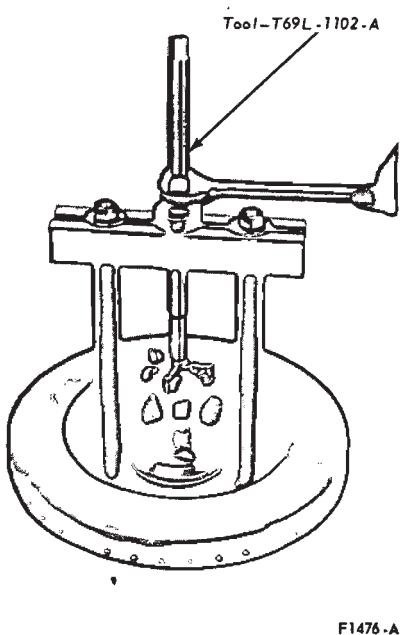


FIG. 4—Removing Front Wheel Bearing Cups—Disc (Drum-Type Similar)

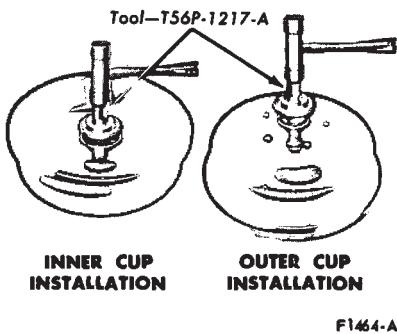


FIG. 5—Installing Front Wheel Bearing Cups—Drum

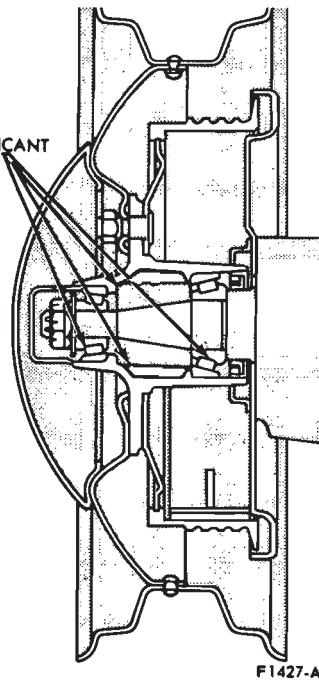


FIG. 6—Front Wheel Hub Lubrication

and tire clear the floor.

2. Remove the wheel cover or hub cap from the wheel.

3. Remove the wheel and tire from the hub and rotor.

4. Remove 2 bolts and washers that attach the caliper to the spindle. Remove the caliper from the rotor and wire it to the underbody to prevent damage to the brake hose.

5. Remove the grease cap from the hub. Remove the cotter pin, nut lock, adjusting nut, and flat washer from the spindle. Remove the outer bearing cone and roller assembly (Fig. 2).

6. Pull the hub and rotor assembly off the wheel spindle.

7. Remove and discard the old grease retainer and the inner bearing cone and roller assembly from the hub.

8. Clean the lubricant off the inner and outer bearing cups with solvent and inspect the cups for scratches, pits, excessive wear, and other damage. If the cups are worn or damaged, remove them with Tool T69L-1102-A (Fig. 4).

9. Thoroughly clean the inner and outer bearing cones and rollers with cleaning solvent, and dry them thoroughly. Do not spin the bearings dry with compressed air.

Inspect the cones and rollers for wear or damage, and replace them if necessary. The cone and roller assemblies and the bearing cups should be replaced as a set if damage to either is encountered.

10. Thoroughly clean the spindle and the inside of the hub with solvent to remove all old lubricant.

Cover the spindle with a clean cloth, and brush all loose dust and dirt from the dust shield. To prevent getting dirt on the spindle carefully remove the cloth from the spindle.

11. If the inner and/or outer bearing cup(s) were removed, install the replacement cup(s) in the hub with the tools shown in Fig. 5. Be sure to seat the cups properly in the hub.

12. Pack the inside of the hub with the specified wheel bearing grease. Add lubricant to the hub only until the grease is flush with the inside diameter of both bearing cups.

It is important that all old grease be removed from the wheel bearings and surrounding surfaces because the new Lithium base grease CIAZ-19590-B is not compatible with Sodium base grease which may already be present on the bearing surfaces.

13. Pack the bearing cone and roller assemblies with wheel bearing grease. A bearing packer is desirable

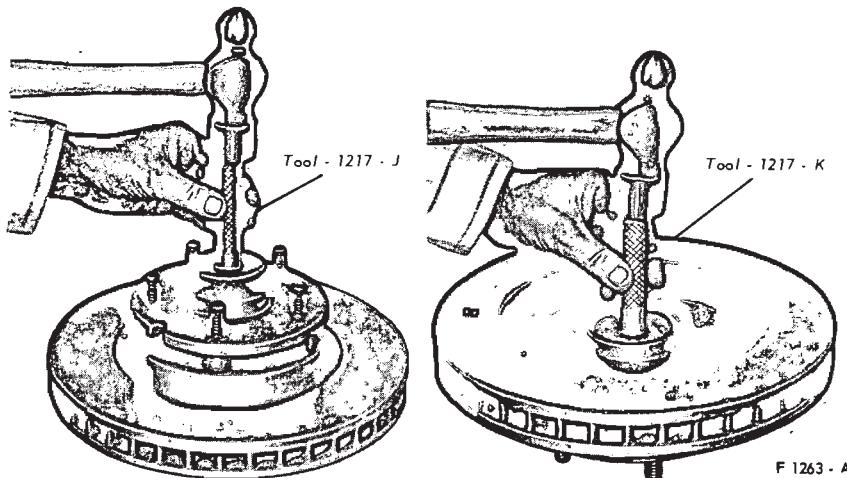


FIG. 7—Installing Front Wheel Bearing Cup—Disc

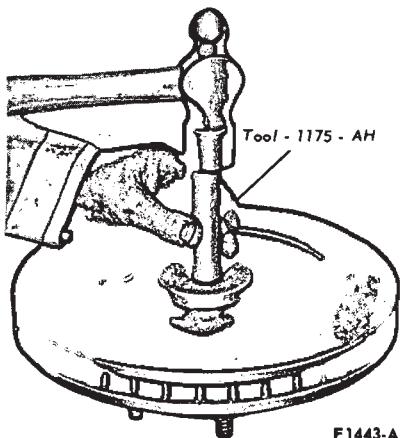


FIG. 8—Installing Grease Retainer—Disc

for this operation. If a packer is not available, work as much lubricant as possible between the rollers and cages. Lubricate the cone surfaces with grease.

14. Place the inner bearing cone and roller assembly in the inner cup. Apply a light film of grease to the lips of the grease retainer and install the new grease retainer with the tool shown in Fig. 8. Be sure the retainer is properly seated.

15. Install the hub and rotor assembly on the wheel spindle. Keep the hub centered on the spindle to prevent damage to the grease retainer or the spindle threads.

16. Install the outer bearing cone and roller assembly and the flat washer on the spindle, then install the adjusting nut.

17. Adjust the wheel bearings as outlined in Section 2, and install a

new cotter pin. Bend the ends of the cotter pin around the castellations of the nut lock to prevent interference with the radio static collector in the grease cap. Install the grease cap.

18. Install the caliper to the spindle and torque the attaching bolts to specifications as detailed in Group 2.

19. Install the wheel and tire on the hub.

20. Install the hub cap or wheel cover.

21. Before driving the vehicle, pump the brake pedal several times to obtain normal brake lining to rotor clearance and restore normal brake pedal travel.

FRONT HUB AND DRUM ASSEMBLY REMOVAL AND INSTALLATION

When the hub and drum assembly is replaced, new bearings and a grease retainer must be installed in the new assembly. The new grease retainer should be soaked in light engine oil at least 30 minutes before installation.

1. Raise the vehicle until the wheel and tire clears the floor. Pry off the hub cap or wheel cover, and remove the wheel and tire from the hub and drum assembly.

2. Remove the grease cap from the hub. Remove the cotter pin, nut lock adjusting nut, and flat washer from the spindle. Remove the outer bearing cone and roller assembly (Fig. 1).

3. Pull the hub and drum assembly off the wheel spindle.

4. Remove the grease retainer and the inner bearing cone and roller assembly from the hub with Tool 1175AB.

5. Remove the protective coating

from the new hub and drum with carburetor degreaser.

6. Pack the inside of the hub with specified wheel bearing grease. Add lubricant to the hub only until the grease is flush with the inside diameter of both bearing cups (Fig. 6).

7. All old grease should be completely cleaned from the bearings before repacking them with new grease. Pack the bearing cone and roller assemblies with wheel bearing grease. A bearing packer is desirable for this operation. If a packer is not available, work as much lubricant as possible between the rollers and cages. Lubricate the cone surfaces with grease.

8. Place the inner bearing cone and roller assembly in the inner cup, and install the new grease retainer with the reverse end of the tool shown in Fig. 5. Be sure that the retainer is properly seated.

9. Adjust the brake shoes as outlined in Group 12.

10. Install the new hub and drum assembly on the wheel spindle. Keep the hub centered on the spindle to prevent damage to the grease retainer.

11. Install the outer bearing cone and roller assembly and the flat washer on the spindle; then, install the adjusting nut (Fig. 1).

12. Position the wheel and tire on the new hub and drum assembly. Install the wheel hub nuts and tighten them alternately in order to draw the wheel evenly against the hub and drum.

13. Adjust the wheel bearings as outlined in Section 2, and install a new cotter pin. Bend the ends of the cotter pin around the castellations of the nut lock to prevent interference with the radio static collector in the grease cap. Install the grease cap.

14. Install the hub cap or wheel cover.

FRONT HUB AND ROTOR ASSEMBLY REMOVAL AND INSTALLATION

When the hub and rotor assembly is replaced, new bearings and a grease retainer must be installed in the new assembly.

1. Raise the vehicle until the wheel and tire clear the floor. Pry off the hub cap or wheel cover, and remove the wheel and tire from the hub and rotor assembly.

2. Remove 2 bolts and washers that attach the caliper to the spindle. Remove the caliper from the rotor and wire it to the underbody to pre-

vent damage to the brake hose.

3. Remove the grease cap from the hub. Remove the cotter pin, nut lock, adjusting nut, and flat washer from the spindle; then, remove the outer bearing cone and roller assembly, (Fig. 2).

4. Pull the hub and rotor off the spindle.

5. Remove the protective coating from the new hub and rotor with carburetor degreaser.

6. Grease and install the inner bearing cone and roller assembly in the inner bearing cup. Apply a light film of grease on the grease retainer

and install the grease retainer.

7. Install the new hub and rotor assembly to the wheel spindle. **Keep the hub centered on the spindle to prevent damage to the grease retainer.**

8. Install the outer bearing cone and roller assembly and the flat washer on the spindle; then, install the adjusting nut.

9. Install the caliper to the spindle and tighten the attaching bolts to specifications as detailed in Group 12.

10. Position the wheel and tire on the new hub and rotor. Install the wheel hub nuts and tighten them alternately in order to draw the wheel

evenly against the hub and rotor.

11. Adjust the wheel bearings as outlined in Section 2, and install a new cotter pin. Bend the ends of the cotter pin around the castellations of the nut lock to prevent interference with the radio static collector in the grease cap. Install the grease cap.

12. Install the hub cap or wheel cover.

13. Before driving the vehicle, pump the brake pedal several times to obtain normal brake lining to rotor clearance and restore normal brake pedal travel.

5 SPECIAL SERVICE TOOLS

Tool No.	Description
1175-AB	Grease Seal Remover (Head Only)
T69L-1102-A	Front Wheel Bearing Remover

CF1540-A

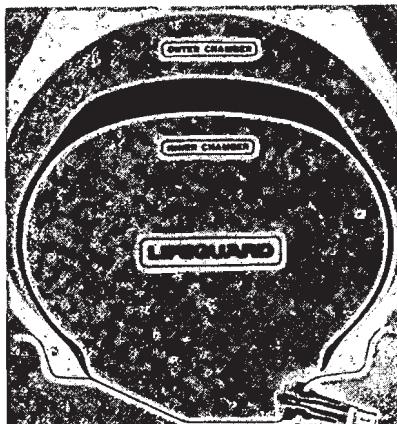
PART 11-03 Tires

COMPONENT INDEX Applies To Models As Indicated	All Models	Mercury	Meteor	Cougar	Fairlane	Falcon	Maverick	Mustang	Montego	Lincoln- Continental	Thunderbird	Continental- Mark III
HOISTING INSTRUCTIONS	03-01											
TIRES (CONVENTIONAL)												
Mounting	03-02											
Removal	03-02											
TIRES (LIFE GUARD)												
Balancing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03-01	03-01	03-01	
Correcting Vibration and Shake	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03-02	03-02	03-02	
Description	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03-01	03-01	03-01	
Installation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03-03	03-03	03-03	
Removal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03-03	03-03	03-03	
Repairs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03-04	03-04	03-04	

A page number indicates that the item is for the vehicle(s) listed at the head of the column.

N/A indicates that the item is not applicable to the vehicle(s) listed.

1 DESCRIPTION



F 1380 - A

FIG. 1—Life Guard Safety Tire—Sectional View

LIFE GUARD TIRE

The Goodyear Power Cushion Tire (available on Thunderbird, Lincoln and Continental Mark III models) fitted with the Life Guard Safety Spare provides a tire within a tire with two separate air chambers (Fig. 1). If the outer tire casing should be punctured or otherwise damaged causing it to go flat, the Life Guard Safety Spare will carry the load of the vehicle and will allow driving at speeds up to 40 mph with good control up to a distance of 40 miles. A Safety-Signal built into the Life Guard tread produces a lop or vibration indicating the outer tire has lost pressure.

2 IN-VEHICLE ADJUSTMENTS AND REPAIRS

HOISTING INSTRUCTIONS

Damage to steering linkage components and front suspension struts may occur if care is not exercised when positioning the hoist adapters of 2 post hoists prior to lifting the vehicle. If a 2 post hoist is used to lift the

vehicle, place the adapters under the lower arms or the No. 1 crossmember. Do not allow the adapters to contact steering linkage. If the adapters are placed under the crossmember, a piece of wood (2x4x16 inches) should be placed on the hoist channel between the adapters. This will prevent

the adapters from damaging the front suspension struts.

BALANCING LIFE GUARD TIRE

Tires fitted with the Life Guard Safety Spare are balanced in the

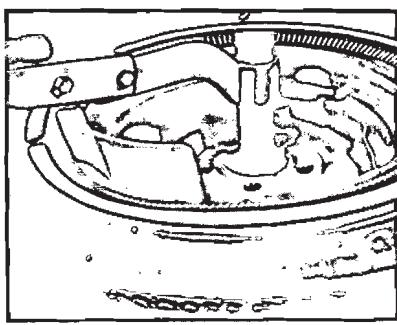


FIG. 2—Breaking Top Bead of Tire From Wheel Rim

same manner as conventional tires. If an excessive out of balance condition exists the following procedure can be used to correct the condition:

1. Remove the core housing and

deflate both air chambers.

2. Install the core housing.
3. Unseat the beads of tire with the bead breakers away from the valve stem as shown in Fig. 2.
4. Rotate tire casing 90 degrees on the wheel rim.
5. Rotate the tire casing back and forth on the rim to center the valve.
6. Inflate both chambers of the tire following steps 13 through 15 of the Tire Installation procedure.
7. Balance the tire in the normal manner.

CORRECTING VIBRATION AND SHAKE— LIFE GUARD TIRE

The condition of excessive vibration and shake is generally the result of an

incorrect pressure relationship between the inner and outer air chambers that may cause the life guard to shift position within the tire. The following procedure should be used to correct vibration and shake conditions:

1. Check pressure of the inner and outer air chambers on all four tires.
2. If the inner chamber has at least five psi more pressure than the outer chamber the pressures should be adjusted and the tires rebalanced if necessary.
3. If the pressures of the inner and outer air chambers are equal the Air Container is leaking. To repair the leaking air container the recommended procedures for the removal, repair of air container, mounting, and balancing should be followed.

3 REMOVAL AND INSTALLATION

HOISTING INSTRUCTIONS

Damage to steering linkage components and front suspension struts may occur if care is not exercised when positioning the hoist adapters of 2 post hoists prior to lifting the vehicle.

If a 2 post hoist is used to lift the vehicle, place the adapters under the lower arms or the No. 1 crossmember. Do not allow the adapters to contact the steering linkage. If the adapters are placed under the crossmember, a piece of wood (2x4x16 inches) should be placed on the hoist channel between the adapters. This will prevent the adapters from damaging the front suspension struts.

REMOVING CONVENTIONAL TIRE FROM WHEEL

The tire can be demounted on a mounting machine. Be sure that the outer side of the wheel is positioned downward. If tire irons are used, follow the procedure given here.

1. Remove the valve cap and core, and deflate the tire completely.
2. With a bead loosening tool, break loose the tire side walls from the wheel (Fig. 3).
3. Position the outer side of the wheel downward, and insert two tire irons about eight inches apart between the tire inner bead and the back side of the wheel rim. Use only

tire irons with rounded edges or irons designed for removing tubeless tires.

4. Leave one tire iron in position, and pry the rest of the bead over the rim with the other iron. Take small bites with the iron around the tire in order to avoid damaging the sealing surface of the tire bead.
5. Stand the wheel and tire upright with the tire outer bead in the drop center well at the bottom of the wheel. Insert the tire iron between the bead and the edge of the wheel rim, and pry the wheel out of the tire.

MOUNTING CONVENTIONAL TIRE TO WHEEL

1. If a used tire is being installed remove all dirt from the tire.

If a tire is being mounted to the original wheel, clean the rim with emery cloth or fine steel wool. Check the rim for dents.

If a new wheel is being installed, coat a new valve with RUGLYDE or similar rubber lubricant and position the valve to the new wheel. Use a rubber hammer or a valve replacing tool to seat the valve firmly against the inside of the rim.

2. Apply RUGLYDE or a similar rubber lubricant to the sealing surface on both tire beads. With the outer side of the wheel down, pry the beads over the wheel rim with two tire irons. Do not use a hammer or mallet

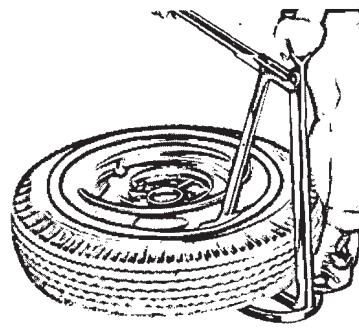


FIG. 3—Bead Loosening Tool

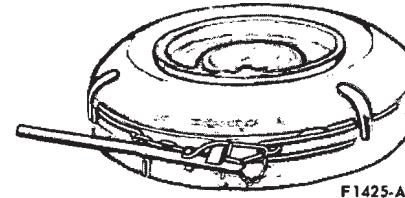
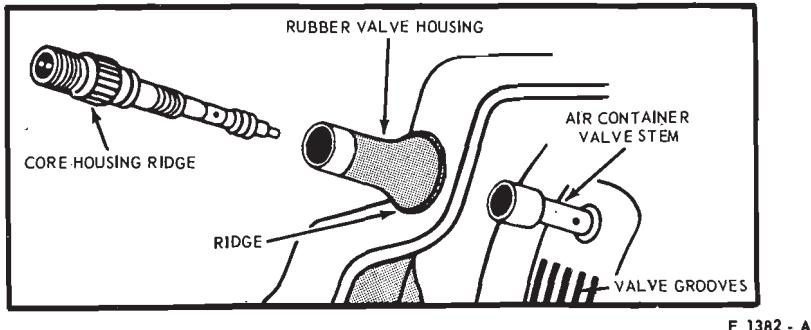


FIG. 4—Tubeless Tire Mounting Band

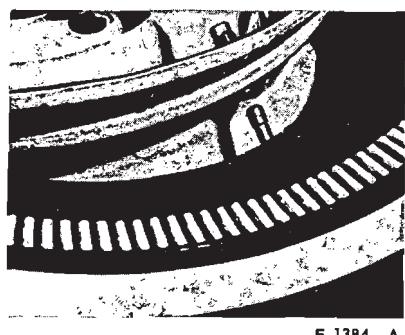
to force the beads over the rim.

3. Align the balance mark on the tire with the valve on the wheel.
4. Hold the beads against the rim flanges by positioning a tire mounting band over the tire (Fig. 4). If a mounting band is not available, tie a tourniquet of heavy cord around the circumference and in the center of the tire. Tighten the cord with a tire iron.



F 1382 - A

FIG. 5—Core Housing Disassembled



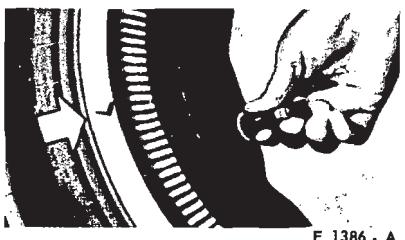
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FIG. 6—Removing Air Container Valve Stem



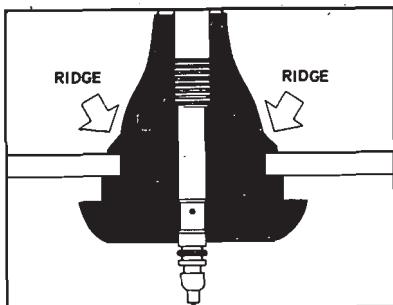
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FIG. 7—Folding Life Guard For Installation in Tire



F 1386 - A

FIG. 8—Aligning Valve with Reference Mark on Tire



F 1387 - A

FIG. 9—Valve Installation

Center the tire on the wheel with a rubber mallet.

5. Give the tire a few quick bursts of air to seat the beads properly, then inflate the tire to 40 psi pressure. Check to see that the bead positioning rings (outer rings near the side walls) are evenly visible just above the rim flanges all the way around the tire. If the rings are not even, deflate the tire completely and inflate it again.

6. When the rings are properly positioned, deflate the tire to the recommended pressure.

REMOVING LIFE GUARD TIRE FROM WHEEL

1. Mark the valve stem location on the tire sidewall.
2. Remove the core housing (Fig. 5) and deflate both air chambers.
3. Unseat the beads of the tire with the bead breakers working away from the valve stem (Fig. 2).
4. Starting at the valve stem, work the top bead of the tire over the rim of the wheel.
5. Pull the air container valve stem out of the rubber valve housing (Fig. 6).
6. Remove the air container before attempting to remove the tire from the wheel.

7. Lift the lower bead over the wheel rim to remove the tire.

8. Remove the rubber valve housing from the wheel rim.

INSTALLING LIFE GUARD TIRE ON WHEEL

1. Apply Silicone Lubricant (COAZ-19553-A) as the anti-friction treatment uniformly over the crown and shoulder area inside the tire or outside the life guard.

2. Fold the life guard as shown in Fig. 7.

3. Insert life guard into tire casing.

4. Install a new rubber valve housing on the air container valve stem and thread the core housing into place. It is not necessary to install a new core housing.

5. Insert air container into the life guard with the valve grooves to the outboard side of the tire. Place the valve at the valve stem location marked on the sidewall during removal as shown in Fig. 8.

6. Apply a soap solution to the beads and the rubber valve housing.

7. Place the wheel on the mounting machine with the valve hole away from bead breakers. Remove all burrs and sharp edges from valve hole in rim.

8. Mount first tire bead exercising care not to pinch air container.

9. Start valve through hole in rim. Do not pull valve housing into place at this time.

10. Mount the second bead starting just past the valve so the last portion of the bead goes over the rim at the valve.

11. Rotate the tire back and forth to center the valve housing.

12. Pull the valve housing into place. Make certain that the rubber valve ridge is visible around the valve housing (Fig. 9).

13. Tighten the core housing lightly using pliers.

14. Thread the Inflate-Chek adapter onto the core housing.

15. Inflate the inner chamber to seat the tire beads exercising care not to exceed 45 psi pressure. Adjust this inner chamber air pressure to 15 psi higher than the recommended tire pressure.

16. Remove the Inflate-Chek adapter and adjust tire (outer chamber) pressure to the recommended pressure.

17. Recheck inner chamber pressure.

18. Install valve cap.

4 MAJOR REPAIR OPERATIONS

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front suspension struts.

LIFE GUARD TIRE REPAIRS

REPAIR OF OUTER TIRE

Outside Repairs

All outside repairs are made in the same manner as on conventional tubeless tires.

Inside Repairs

1. Remove the anti-friction treatment on the inside of the tire with

rubber solvent.

2. Buff the inside area of the tire.
3. Apply a hot cure patch **only**.

REPAIR OF AIR CONTAINER

Air containers are repaired in the same manner as conventional inner tubes.

REPAIR OF LIFE GUARD

A damaged life guard that may pinch the air container should be replaced. No repairs are required for small punctures in the life guard.